

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

1 1. (Currently Amended) A method of automating ~~the~~ provisioning of network services  
2 for customer premises equipment of a subscriber in a next generation digital  
3 telecommunications network, the method comprising the steps of:

4 receiving a service request from a network service provider that ~~specifies~~ comprises  
5 information uniquely identifying the customer premises equipment to be  
6 provisioned, and a service to be provided ~~to~~ by the customer premises  
7 equipment;

8 retrieving a configuration template for a configuration appropriate for the customer  
9 premises equipment;

10 allocating and reserving at least one resource associated with the customer premises  
11 equipment;

12 generating configuration data for the customer premises equipment based on the  
13 configuration template and stored system configuration information; and

14 delivering the configuration data over the network to the customer premises  
15 equipment to result in provisioning the customer premises equipment to  
16 provide the service.

1 2. (Original) A method as recited in Claim 1, wherein the customer premises equipment  
2 is an ADSL router, wherein the network is an asynchronous transfer mode (ATM) network,

3 and wherein the step of generating configuration data includes the step of allocating and  
4 reserving an IP address and fully-qualified domain name for each of a plurality of permanent  
5 virtual circuits associated with communications among the network and the router.

1 3. (Currently Amended) A method as recited in Claim 1, wherein the ~~configuration~~  
2 service request comprises information uniquely identifying the customer premises equipment  
3 to be provisioned, information identifying one or more permanent virtual circuits assigned by  
4 the service provider to the customer premises equipment; and access control data.

1 4. (Original) A method as recited in Claim 1, wherein the customer premises equipment  
2 is an ADSL router, wherein the network is an asynchronous transfer mode (ATM) network,  
3 and wherein the step of delivering the configuration data comprises the steps of storing the  
4 configuration data in a file server that is communicatively coupled to the network and  
5 delivering the configuration data from the file server to the ADSL router using file transfer  
6 protocol.

1 5. (Original) A method as recited in Claim 1, wherein the customer premises equipment  
2 is an T1 CPE device, wherein the network is an asynchronous transfer mode (ATM) network,  
3 and wherein the step of delivering the configuration data comprises the steps of pre-staging  
4 the configuration data in a file server that is communicatively coupled to the network and  
5 delivering the configuration data from the file server to the T1 CPE device using telnet.

1 6. (Original) A method as recited in Claim 1, wherein the step of generating  
2 configuration data includes the steps of:

3 allocating and reserving one or more network addresses respectively associated with  
4 one or more communication channels between the network and the customer  
5 premises equipment by communicating with a dynamic host control protocol  
6 (DHCP) server;

7 allocating and reserving one or more fully qualified domain names respectively  
8 associated with one or more communication channels between the network  
9 and the customer premises equipment by communicating with a domain name  
10 service (DNS) server.

1 7. (Original) A method as recited in Claim 1, further comprising the steps of:  
2 creating and storing updated configuration data in response to receiving a request to  
3 update provisioning of the customer premises equipment;  
4 generating a request to a proxy element of a network access device to update the  
5 provisioning to the customer premises equipment.

1 8. (Original) A method as recited in Claim 1, further comprising the steps of:  
2 creating and storing updated configuration data in response to receiving a request to  
3 update provisioning of the customer premises equipment;  
4 delivering the updated configuration data to the customer premises equipment;  
5 applying the updated configuration data as a merge to an existing configuration of the  
6 customer premises equipment, to result in creating a merged configuration;  
7 saving the merged configuration as a start-up configuration for the customer premises  
8 equipment.

1 9. (Original) A method as recited in Claim 1, further comprising the steps of:  
2 receiving information indicating that access is provisioned for a subscriber associated  
3 with the customer premises equipment and that one or more permanent virtual  
4 circuits are established in network elements of the network for facilitating the  
5 access;  
6 allocating and reserving network addresses for a voice signaling channel and a bearer  
7 channel associated with communications between the customer premises  
8 equipment and the network;  
9 updating a domain name service server with information that associates the allocated  
10 and reserved network addresses with the customer premises equipment;  
11 creating and storing one or more mappings for the permanent virtual circuits in a  
12 switch device that directs network communications to the customer premises  
13 equipment.

1 10. (Original) A method as recited in Claim 1, further comprising the steps of:  
2 retrieving system configuration data from one or more sub-networks that contain the  
3 customer premises equipment;  
4 allocating network addresses for a signaling channel and a bearer channel associated  
5 with the customer premises equipment;  
6 updating a DNS server with mappings of the network addresses and corresponding  
7 fully-qualified domain names.

1 11. (Original) A method as recited in Claim 1, wherein the steps of retrieving a  
2 configuration template for a configuration appropriate for the customer premises equipment  
3 include the steps of:

4 extracting a device type and service type from the service request;

5 searching a template registry table for the template based on the device type and  
6 service type;

7 if a template associated with the device type and service type is not found in the  
8 template registry table, selecting and using a default configuration template.

1 12. (Currently Amended) A computer-readable medium carrying one or more sequences  
2 of instructions for automatically provisioning ~~network service~~ for customer premises  
3 equipment of a subscriber in a next generation digital telecommunications network to provide  
4 a network service, which instructions, when executed by one or more processors, cause the  
5 one or more processors to carry out the steps of:

6 receiving a service request from a network service provider that ~~specifies~~ comprises

7 information uniquely identifying the customer premises equipment to be

8 provisioned, and a service to be provided ~~to~~ by the customer premises

9 equipment;

10 retrieving a configuration template for a configuration appropriate for the customer  
11 premises equipment;

12 allocating and reserving at least one resource associated with the customer premises  
13 equipment;

14 generating configuration data for the customer premises equipment based on the  
15 configuration template and stored system configuration information;  
16 delivering the configuration data over the network to the customer premises  
17 equipment to result in provisioning the customer premises equipment to  
18 provide the service.

1 13. (Currently Amended) An apparatus for automatically provisioning ~~network service~~  
2 ~~for~~ customer premises equipment of a subscriber in a next generation digital  
3 telecommunications network to provide a network service, comprising:

4 means for receiving a service request from a network service provider that ~~specifies~~  
5 comprises information uniquely identifying the customer premises equipment  
6 to be provisioned and a service to be provided ~~to~~ by the customer premises  
7 equipment;

8 means for retrieving a configuration template for a configuration appropriate for the  
9 customer premises equipment;

10 means for allocating and reserving at least one resource associated with the customer  
11 premises equipment;

12 means for generating configuration data for the customer premises equipment based  
13 on the configuration template and stored system configuration information;

14 means for delivering the configuration data over the network to the customer  
15 premises equipment to result in provisioning the customer premises  
16 equipment to provide the service.

1 14. (Currently Amended) An apparatus for automatically provisioning ~~network service~~  
2 ~~for~~ customer premises equipment of a subscriber in a next generation digital  
3 telecommunications network to provide a network service, comprising:  
4 a processor;  
5 a network interface communicatively coupled between the processor and the network  
6 and configured to communicate data among the processor and the network;  
7 a computer-readable medium comprising one or more sequences of instructions  
8 which, when executed by the processor, cause the processor to carry out the  
9 steps of:  
10 receiving a service request from a network service provider that ~~specifies~~  
11 comprises information uniquely identifying the customer premises  
12 equipment to be provisioned and a service to be provided to by the  
13 customer premises equipment;  
14 retrieving a configuration template for a configuration appropriate for the  
15 customer premises equipment;  
16 allocating and reserving at least one resource associated with the customer  
17 premises equipment;  
18 generating configuration data for the customer premises equipment based on  
19 the configuration template and stored system configuration  
20 information;  
21 delivering the configuration data over the network to the customer premises  
22 equipment to result in provisioning the customer premises equipment  
23 to provide the service.

1 15. (Currently Amended) An apparatus for automatically provisioning ~~network service~~  
2 ~~for~~ customer premises equipment of a subscriber in a next generation digital  
3 telecommunications network to provide a network service, comprising:

4 a provisioning engine configured to receive a service request from a network service  
5 provider that ~~specifies~~ comprises information uniquely identifying the  
6 customer premises equipment to be provisioned, and a service to be provided  
7 to by the customer premises equipment;

8 a configuration template manager communicatively coupled to the provisioning  
9 engine and configured to retrieve a configuration template for a configuration  
10 appropriate for the customer premises equipment;

11 means in the provisioning engine for allocating and reserving at least one resource  
12 associated with the customer premises equipment and for generating  
13 configuration data for the customer premises equipment based on the  
14 configuration template and stored system configuration information;

15 a configuration delivery manager communicatively coupled to the provisioning  
16 engine and configured to deliver the configuration data over the network to  
17 the customer premises equipment to result in provisioning the customer  
18 premises equipment to provide the service.

1 16. (Original) An apparatus as recited in Claim 15, further comprising a resource  
2 manager that is communicatively coupled to the provisioning engine and communicatively  
3 coupled to a dynamic host control protocol (DHCP) server and a domain name service (DNS)  
4 server, wherein the resource manager is configured to request and receive one or more



5 network addresses from the DHCP server and to request and receive one or more fully-  
6 qualified domain names from the DNS server.

1 17. (Original) An apparatus as recited in Claim 15, further comprising an inventory  
2 manager that is communicatively coupled to the provisioning engine and to an inventory  
3 repository that comprises network element inventory information, and wherein the means for  
4 generating configuration data includes means for generating the configuration data based on  
5 the network element inventory information.

1 18. (Original) An apparatus as recited in Claim 15, wherein the customer premises  
2 equipment is an ADSL router, wherein the network is an asynchronous transfer mode (ATM)  
3 network, and wherein means for generating configuration data includes means for allocating  
4 and reserving an IP address and fully-qualified domain name for each of a plurality of  
5 permanent virtual circuits associated with communications among the network and the  
6 router.

1 19. (Currently Amended) An apparatus as recited in Claim 15, wherein the ~~configuration~~  
2 service request comprises information uniquely identifying the customer premises equipment  
3 to be provisioned, information identifying one or more permanent virtual circuits assigned by  
4 the service provider to the customer premises equipment; and access control data.

1 20. (Original) An apparatus as recited in Claim 15, wherein the customer premises  
2 equipment is an ADSL router, wherein the network is an asynchronous transfer mode  
3 (ATM) network, and wherein means for delivering the configuration data comprises  
4 means for storing the configuration data in a file server that is communicatively coupled

- 5 to the network and delivering the configuration data from the file server to the ADSL
- 6 router using file transfer protocol.